

### REMARKS

Applicant response to the above patent application is presented below.

***Claims 1-10, 12-13 rejected under 35 U.S.C 102(b) as being anticipated by US Patent 6,147,530 issued to Nogawa***

5        Regarding claim 1, applicant asserts that Nogawa does not teach a frequency detection module for “calculating a number of periods of the phase locked signal corresponding to a distance between the two regular patterns”. The Examiner has suggested in remarks that the frequency comparator 2 of Nogawa detects the sync patterns being the two regular patterns. However, applicant points out that the frequency  
10        comparator 2 of Nogawa includes “frame generating counter 25 temporarily calculates one frame of the EFM signal” (Fig. 6, Col 13 lines 14-17), where the frame generating counter 25 was also referred to in claim 2 remarks by the Examiner for detecting the two regular patterns (sync patterns). Because each frame only contains a single sync pattern (Col 12 lines 61-62), in order to properly determine a number of periods between the two sync patterns in different  
15        frames, a sampling range greater than one frame must be used so that the two sync patterns are sufficiently detected. A sampling period of one frame, as taught above by Nogawa, only ensures that one sync pattern may be detected. Applicant points out that having a sampling period of one frame, therefore, is not sufficient to detect two sync patterns being in different frames, as the continuous difference of the sync patterns in different frames must be  
20        considered in order to calculate the number of periods separating them.

The above contention is additionally supported by Nogawa, as he teaches and only necessitates detection of one sync pattern “The length of one frame is detected... one frame has one SYNC pattern without fail, which guarantees that SYNC pattern can be

detected” (Col 13 lines 58-67), while nowhere explicitly teaching a requirement of detecting two sync patterns. Because Nogawa does not explicitly require or suggest detection of two sync patterns, applicant points out that he does not therefore perform “detecting two regular patterns in the incoming signal”, as stated in the limitation for  
5 claim 1, being a necessary prerequisite for “calculating a number of periods of the phase locked signal corresponding to a distance between the two regular patterns”. In the Office action reply on March 24, 2006, the Examiner presumed “The recitation of a frame generating counter 25 temporarily calculates one frame has to be taken in the context as an example of an instance of one of the frames in a series”. Applicant asserts that  
10 assumptions in this regard cannot be advanced, as although the frequency comparator 2 may have capability to do so, the specific requirement of detecting two sync patterns (and hence two regular patterns) is outside the scope of Nogawa’s teachings.

For at least the above mentioned reasons, applicant respectfully requests reconsideration for the allowance of claim 1.

15 Regarding claim 2, applicant asserts that Nogawa does not teach a pattern detector for detecting two regular patterns. The Examiner has identified the frame generating counter 25, however as described above, the “frame generating counter 25 temporarily calculates one frame of the EFM signal... and supplies hold periods H1 and H2” (Col 13 lines 14-17), and “The length of one frame is detected... one frame has one SYNC pattern  
20 without fail, which guarantees that SYNC pattern can be detected” (Col 13 lines 58-67). Therefore, since the frame generating counter 25 only calculates one frame, and each frame only one SYNC pattern, it does not detect two SYNC signals of the incoming signal as suggested by the Examiner. Nogawa also only necessitates and demonstrates detecting one SYNC pattern, as stated in claim 1 remarks. Although the SYNC pattern does repeat in a  
25 series of frames, assumptions beyond the scope of Nogawa’s teachings, such as detecting two SNYC patterns, are unwarranted and unsupported.

Additionally, applicant asserts that Nogawa does not teach “a counter electrically coupled to the pattern detector for calculating the number of periods of the phase locked signal corresponding to the distance between the two regular patterns”. The Examiner has suggested that counter 212 and peak/bottom units 22, 23 perform substantially the same operation, however, the applicant disagrees. Inspection of Fig. 6, which illustrates operation of the frequency comparator 2, shows that counter 212 only outputs (EFM) signal to the frame generating counter 25, and that the counter 212 does not receive any input signals whatsoever from frame generating counter 25, as no output signal paths from frame generating counter 25 lead to counter 212 according to Fig. 6. As the frame generating counter 25 is supposedly responsible for detecting the two SYNC patterns, as suggested by the Examiner, applicant asserts that counter 212 of Nogawa therefore cannot detect the distance between the two regular patterns because it does not receive a control signal from the frame generating counter 25 for indicating when the detection of said SYNC patterns has occurred. Applicant points out that the Examiner’s earlier supposition contradicts the schematic arrangement taught by Nogawa in Fig. 6, and therefore shows that the counter 212 cannot operate in the manner as claimed in the limitation of claim 2 of the present invention. It is inherent that without proper identification of the SYNC patterns by the counter 212, it cannot be ensured that the counter is calculating the number of periods between two SYNC patterns.

For at least the above mentioned reasons, applicant respectfully requests reconsideration for the allowance of claim 2.

Regarding claims 3-4, applicant points out that they are dependant on claim 2 above. Should an allowance be made for claim 2, then similarly, allowances should be made for dependant claims 3-4.

Regarding claims 5-6, applicant points out that they are dependant on claim 1 above.

Should an allowance be made for claim 1, then similarly, allowances should be made for dependant claims 5-6.

Claims 7-8 are method claims analogous to the PLL device claims of claims 1-2, respectively. Therefore, the rationale provided above for claims 1-2 is equally applicable to  
5 claims 7-8. Applicant respectfully requests re-evaluation of Claims 7-8 in reconsideration for its allowance.

Regarding claim 9, applicant points out that it is dependant on claim 8 above. Should an allowance therefore be made for claim 8, then similarly, claim 9 should be found allowable as being dependant on claim 8.

10 Regarding claim 10, applicant points out that it is dependant on claim 7 above. Should an allowance therefore be made for claim 7, then similarly, claim 10 should be found allowable as being dependant on claim 7.

Regarding claim 11, as stated by the examiner in the Allowable Subject Matter, the prior art of record fails to suggest or disclose the claimed feature.

15 Regarding claims 12-13, applicant points out that they are dependant on claim 1 above. Should an allowance be made for claim 1, then similarly, allowances should be made for dependant claims 12-13.

#### **New Claims**

20 Claim 14 has been newly added, further narrowing the limitations presented in claim 6 above. Claim 14 is fully supported in the original disclosure, and does not introduce any new subject matter.

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Sincerely yours,



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10 Note: Please leave a message in my voice mail if you need to talk to me. (The time in D.C. is 13 hours behind the Taiwan time, i.e. 9 AM in D.C. = 10 PM in Taiwan.)